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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/825,609	04/16/2004	Hidekazu Mizuno	Q81033	8052
23373	7590	07/27/2006	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			MARTIN, LAURA E	
			ART UNIT	PAPER NUMBER
			2853	

DATE MAILED: 07/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/825,609

Applicant(s)

MIZUNO, HIDEKAZU

Examiner

Laura E. Martin

Art Unit

2853

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

Claim 10 is objected to because of the following informalities:

The claim was changed from "achieving the step of" to "comprising". Examiner suggests that the claim be amended to read, "achieving the step of" as a program does not comprise the claimed steps, but rather achieves the claimed steps. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 5, 6, and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakajima et al. (EP 1096421) in view of Takekoshi et al. (US 20030234847).

Nakajima et al. discloses:

As per claims 1, 10-12, Nakajima et al. teaches a printing apparatus, printing method, and printing system comprising: a printing head (figure 4, element 401) for ejecting ink to a medium to carry out printing thereon; and a side-reversing member (figure 12, element 450) for reversing the sides of said medium that is printed by said printing head, wherein a waiting time for drying [0023] before reversing said medium

Art Unit: 2853

with said side-reversing member, the ink ejected to said medium is set according to an amount of ink ejected [0107] by said printing head, and an elapsed time from when the ink was ejected by the printing head [0023]. Nakajima et al. also teaches a computer readable storage medium having a program executed by a printing apparatus [0024] and a computer [0016].

As per claim 2, Nakajima et al. teaches a carrying member for carrying said medium (figure 12, element 407) wherein said printing head performs a printing action during intervals between carrying actions of said carrying member [0059].

As per claim 3, Nakajima et al. teaches a waiting time set according to an amount of ink ejected by said printing head during an interval between the carrying actions of said carrying member (figure 8, [0101]) and an elapsed time from said printing action performed by said printing head during said interval between said carrying actions [0023].

As per claim 5, Nakajima et al. teaches said waiting time differs according to a type of ink ejected by said printing head (figure 11, [0108]).

As per claim 6, Nakajima et al. teaches the waiting time differs according to a type of medium that is printed on said printing head (figure 10, [0108]).

Nakajima et al. does not disclose:

A printing area divided into several areas and said amount of ink and said elapsed time are measured for each divided area.

Takekoshi et al. discloses:

A printing area divided into several areas and said amount of ink and said elapsed time are measured for each divided area [0154].

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the printing apparatus, method, and printing system taught by Nakajima et al. with the disclosure of Takekoshi et al. in order to improve surface regularity of the print medium.

Claims 4 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakajima et al. (EP 1096421) and Takekoshi et al. (US 20030234847), and further in view of Kimura et al. (US 6270199).

Nakajima et al. discloses:

Nakajima et al. teaches a printing apparatus, printing method, and printing system comprising: a printing head (figure 4, element 401) for ejecting ink to a medium to carry out printing thereon; and a side-reversing member (figure 12, element 450) for reversing the sides of said medium that is printed by said printing head, wherein a waiting time for drying [0023] before reversing said medium with said side-reversing member, the ink ejected to said medium is set according to an amount of ink ejected [0107] by said printing head, and an elapsed time from when the ink was ejected by the printing head [0023]; a carrying member for carrying said medium (figure 12, element 407) wherein said printing head performs a printing action during intervals between carrying actions of said carrying member [0059]; and a waiting time set according to an amount of ink ejected by said printing head during an interval between the carrying

actions of said carrying member (figure 8, [0101]) and an elapsed time from said printing action performed by said printing head during said interval between said carrying actions [0023].

Takekoshi et al. discloses:

A printing area divided into several areas and said amount of ink and said elapsed time are measured for each divided area [0154].

Nakajima et al. and Takekoshi et al. do not disclose:

Nakajima et al. does not disclose the amount of ink ejected by said printing head is calculated based on a number of times said ink is ejected by printing head, and an amount of said ink ejected by said printing head per one ejection action.

Kimura et al. discloses:

Kimura et al. teaches an amount of ink ejected by said printing head is calculated based on a number of times said ink is ejected by printing head, and an amount of said ink ejected by said printing head per one ejection action (column 16, lines 1-12).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the printing apparatus of Nakajima et al. as modified with the disclosure of Kimura et al. in order to provide a higher quality control system.

Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakajima et al. (EP 1096421) and Takekoshi et al. (US 20030234847), and further in view of Otsuka et al. (US 6416151).

Nakajima et al. discloses:

Nakajima et al teaches the printing apparatus of claim 1.

Nakajima et al. and Takekoshi et al. do not disclose:

Nakajima et al. and Takekoshi et al. do not disclose waiting time differing according to surrounding temperatures or according to surrounding humidity.

Otsuka et al. discloses:

Otsuka et al. teaches waiting time differing according to surrounding temperatures or according to surrounding humidity (column 36, lines 42-50).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the apparatus of Nakajima et al. as modified with the disclosure of Otsuka et al. because the surrounding environment can factor into the amount of time needed for ink to dry.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any


extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura E. Martin whose telephone number is (571) 272-2160. The examiner can normally be reached on Monday - Friday, 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Laura E. Martin


STEPHEN MEIER
SUPERVISORY PATENT EXAMINER